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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/399,310

09/20/1999

MANOOCHER BIRANG

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32588

7590

05/27/2004

APPLIED MATERIALS, INC.  
2881 SCOTT BLVD. M/S 2061  
SANTA CLARA, CA 95050

EXAMINER

CONNOLLY, PATRICK J

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/399,310

Applicant(s)

BIRANG ET AL.

Examiner

Patrick J Connolly

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-76 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 24-26, 41-61 and 63-75 is/are rejected.
- 7) ☒ Claim(s) 11-23, 27-40, 62 and 76 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Double Patenting***

Claims 1-6, 42 and 43 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10 and 11 of U.S. Patent No. 5,964,643. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of claims 10 and 11 of '643 are broader in scope than those of the pending claims and already include and anticipate the limitations of the pending claims.

Claims 51-61, 7-10 and 24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10 and 11 of U.S. Patent No. 5,964,643. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of claims 1-15 of '643 are broader in scope than those of the pending claims and already include and anticipate the limitations of the pending claims.

Claims 44-50 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 5,964,643. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of claims 1-15 of '643 are broader in scope than those of the pending claims and already include and anticipate the limitations of the pending claims.

Claims 25, 26, 41 and 63-70 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No.

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6,537,133. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of claims 1-5 of '133 are broader in scope than those of the pending claims and already include and anticipate the limitations of the pending claims.

Claims 71-75 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,537,133. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of claims 1-5 of '133 are broader in scope than those of the pending claims and already include and anticipate the limitations of the pending claims.

***Allowable Subject Matter***

Claims 11-23, 27-40, 62 and 76 are objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following are statements of reasons for the indication of allowable subject matter:

As to claim 11, the prior art of record, taken alone or in combination, fails to disclose or render obvious an apparatus for CMP polishing a wafer including: a polishing pad having at least a portion formed of light-transmitting material; an optical monitoring system arranged to direct a light beam at least during part of the polishing operation through the light transmitting material; the optical monitoring system further comprising a position sensor for sensing when the light

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transmitting material is adjacent to the wafer, in combination with the rest of the limitations of claim 11.

As to claim 14, the prior art of record, taken alone or in combination, fails to disclose or render obvious an apparatus for CMP polishing a wafer including: a polishing pad having at least a portion formed of light-transmitting material; an optical monitoring system arranged to direct a light beam at least during part of the polishing operation through the light transmitting material; the optical monitoring system including a data acquisition means comprising: means for sampling a detection signal; and means for integrating the sampled detection signal, in combination with the rest of the limitations of claim 14.

As to claim 27, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method for CMP polishing including: intermittently passing a light beam through a window that moves with a polishing pad, the window intermittently providing a pathway for a light beam to impinge on the wafer and sensing when the window is adjacent the wafer such that the light beam can pass unblocked through the window and impinge on the wafer, in combination with the rest of the limitations of claim 27.

As to claim 62, the prior art of record, taken alone or in combination, fails to disclose or render obvious an apparatus for CMP polishing a wafer including: a polishing pad having at least a portion formed of light-transmitting material; an optical monitoring system arranged to direct a light beam at least during part of the polishing operation through the light transmitting material; and data acquisition means for sampling a detection signal from a detector and means for outputting the data signal representing the sampled detection signal, in combination with the rest of the limitations of claim 62.

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As to claim 76, the prior art of record, taken alone or in combination, fails to disclose or render obvious a method for CMP polishing a wafer including: directing a light beam through a light transmitting material of a polishing pad so that the light beam impinges on a wafer and sampling a detection signal from a detector and outputting a data signal representing the sampled detection signal, in combination with the rest of the limitations of claim 76.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J Connolly whose telephone number is 571.272.2412.

The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571.272.2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pjc PJC  
05-20-2004



Samuel A. Turner  
Primary Examiner